VOL. 5 NO. 11
NOVEMBER 1983

neat notes

THE NEWSLETTER OF NEW ENGLAND APPLE TREE

November 1983 N.E.A.T. Meeting

The November meeting will be held at 7:30 P.M. on the third Wednesday of the month (as usual), November 16, 1983 at the Mitre cafeteria. Mitre is on rte 62 in Bedford Ma. Take route 3 north from rte 128 to the first exit (rte 62).

NOVEMBER'S MEETING

No speaker for November; instead N.E.A.T. will hold its annual swap night. All you members with old software or hardware you would like to trade, show up!

THE FUTURE SCHEDULE IS TENTATIVELY AS FOLLOWS:

November 16,1983------SWAP NIGHT

December 21,1983------ELF: THE RESOURCE MANAGER

January 18,1983------??????????

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THE NEWSLETTER OF NEW ENGLAND APPLE TREE

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NOVEMBER HIGHLIGHTS

NEAT Meeting Notes
by Alice Janian.....Page 4
Calendar
by Raines Cohen.....Page 4
The Editor Speaketh
.....Page 5
Laidback With (a) Fifth
by Mark Champine.....Page 6
ANA-LIST: A Review
by John J. Shaw.....Page 8
What If...? A Review
by John S. Haley.....Page 11
B.E.S.T.: A Review
.....Page 13
The ARTIST: A Review
by Rick Croasdale.....Page 14
SCREEN DATA MANAGER
by Mike Gooding.....Page 17
Membership Application and
DOM Order Blank.....Page 19

N.E.A.T. MEETING MINUTES
October 19,1983
by Alice Janian

Present: Terry Scheller, John Shaw, Dave Lynn, Gary Zeiss, Joe Stivaletta, Elliott Entin, Mike Gooding and Alice Janian.

Terry called the meeting to order at 7:30 P.M.

Announcements--N.E.A.T. has added 66 more Disks of Public Domain programs to our Library. Next month Mike Gooding will have a listing of all the programs in the Library.

Mike Gooding will give a 20% discount to all N.E.A.T. members interested in buying his program, "Data Base II SDM". [Ed note: see the article on SDM beginning on page 17 in this issue.]

The format of our Magazine was discussed-we will save 1/3 of the price if it is printed and stapled on the side. The vote was to try if for 3 months.

Next month's meeting will be Swap Night.

Topic of the Evening - LISA. Jeff Turner and John Pyra demonstrated LISA. These gentlemen are from the Framingham office. It was a very interesting demonstration and they explained it very well. They also had a question and answer period.

The meeting was adjourned 9:15 P.M.

CALENDAR
Compiled by Raines Cohen

November 19 9:30AM
Apple Guild
Massasoit Community College
call 767-1303

November 26 2:30PM
Newton Apple Kids
Location: ?????
call 965-0033

December 7 7:00PM
New England Computer Society
Mitre Cafeteria
call 646-3080

December 10 10:00AM
North Shore Apple Group
Computer City, Danvers
call 546-3104

December 17 9:30AM
Apple Guild
Massasoit Community College
call 767-1303

December 21 7:30PM
New England Apple Tree
Mitre Cafeteria
call 497-9050

December 24 2:30PM
Newton Apple Kids
Location: ?????
call 965-0033

November 16 7:30PM
New England Apple Tree
Mitre Cafeteria
call 497-9050

November 26 2:30PM
Newton Apple Kids
Location: ????
call 965-0033

THE EDITOR SPEAKETH

You may have noticed something new about this month's NEAT NOTES. No, it didn't come out on time (which would have been a first under my stewardship). No, we didn't add Stephen King, Russel Baker, Irwin Shaw, or Harold Robbins to our editorial staff. No no, this is something far less earth-shattering: we have changed the way we bind this newsletter.

Historically, we have used a saddle staple binding to hold NEAT NOTES together. The problem is, this binding places some restrictions on how we can assemble the newsletter, and is also quite costly; two issues that did not concern us when the newsletter was printed for free. Unfortunately, the club (meaning we, the members) now pays for the full cost of producing the newsletter (minus the small revenues we collect from advertisements): the switch from the saddle staple to the side staple is an experiment to cut over 1/3 of our costs.

This is a temporary move for the moment; the experiment was approved by a club vote in October to try this new binding for three months. In the meantime I and the club officers will welcome any comments from you, telling us whether you do or do not approve of this new measure.

If you would like to speak your mind, but cannot (or do not) attend the meetings, feel welcome to drop us a letter addressed to the club. I look forward to hearing from you!!

ANOTHER TOPIC OF INTEREST: NEAT has a excellent collection of Apple technical documents and newsletters from other Apple clubs, all of which is to say we can probably answer many questions you may have about your Apple, and Apple-compatible software and hardware. You may notice, in fact, that we try to reprint hardware, software, and book reviews from other newsletter, our intent here is to give you information you may not be able to find on your own.

Do you have a question (or questions) you think we can answer? Or, do you have a particular interest in, say, word processing software, Pascal, BASIC, data base software, etc., and would like to see what articles have been written by Apple and by the Apple clubs in these areas? Drop us a request. Would you like to see what has been written about education? Drop us a letter. YOU, the club members, have an opportunity (and an obligation) to help define the editorial content of your newsletter, so let's hear from you!

LAIDBACK WITH (a) FIFTH
disassembled by Mark Champine

(reprinted from NECS NEWSLETTER)

BASIC, FORTRAN, COBOL... these programming languages are well known and (more or less) well loved throughout the computer industry. There are numerous other languages, however, that are less well known, yet still have ardent devotees. In fact, these little-known languages generally have the most fanatic admirers. For those who wish to know more about these obscure languages - and why they remain obscure - I present the following catalog.

* SIMPLE - acronym for **Sheer Idiot's Monopurpose Programming Linguistic Environment.** This language, developed at the Hanover College for Technological Misfits, was designed to make it impossible to write code with errors in it. SIMPLE's statements are, therefore, confined to BEGIN, END, and STOP. No matter how you arrange the statements, you can't make a syntax error.

Programs written in SIMPLE do nothing useful. Thus, they achieve the results of programs written in other languages without the tedious, frustrating process of testing and debugging.

* SLOBOL - best known for the speed of its compiler. Although many compilers allow you to take a coffee break while they compile, SLOBOL compilers allow you to travel to Bolivia to pick the coffee. Forty-three programmers are known to have died of boredom sitting at their terminals while waiting for a SLOBOL program to compile.

* VALGOL - From its modest beginnings in Southern California's San Fernando Valley, VALGOL is enjoying a dramatic surge of popularity across the industry.

VALGOL commands include REALLY, LIKE, WELL, and Y*KNOW. Variables are assigned with the =LIKE and =TOTALLY operators. Other operators include the "California Booleans" FERSURE and NOWAY. Repetitions are handled in FOR-SURE loops. Here is a sample VALGOL program:

```
14   LIKE Y*KNOW (I MEAN) START
%%   IF PI-A =LIKE BITCHEN AND
Ø1   B =LIKE TUBULAR AND
9    C =LIKE GRODY^MAX
4K   (FERSURE)^2
18   THEN
4i   FOR I =LIKE 1 TO OH MAYBE 1Ø
86   DO WAY + (DITTY^2)
9    BARF(I) =TOTALLY GROSS(OUT)
-17  SURE
1F   LIKE BAG THIS PROGRAM
?    REALLY
$$   LIKE TOTALLY (Y*KNOW)
```

VALGOL is known for its unfriendly error messages. For example, when the user make a syntax error, the interpreter displays GAG ME WITH A SPOON!

* LAIDBACK - historically related but prior to VALGOL, LAIDBACK was developed at the (now defunct) Marin County Center for T'ai Chi Mellowness, and Computer Programming, an alternative to the more intense atmosphere in nearby Silicon Valley.

The center was ideal for programmers who liked to soak in hot tubs while they worked. Unfortunately, few programmers

could survive there for long, since the center outlawed pizza and RC COLA in favor of bean curd and Perrier.

Many mourn the demise of LAIDBACK because of its reputation as a gentle and nonthreatening language. For example, LAIDBACK responded to syntax errors with the message, SORRY MAN, I CAN'T DEAL WITH THAT.

* SARTRE - named after the late existential philosopher, SARTRE is an extremely unstructured language. Statements in SARTRE have no purpose; they just are. Thus, SARTRE programs are left to define their own functions. SARTRE programmers tend to be depressed and are no fun at parties.

* FIFTH - is a precision mathematical language wherein the data types refer to quantity. Data types range from CC, OUNCE, SHOT, and JIGGER to FIFTH (hence the name of the language), LITER, MAGNUM, and BLOTTO. Commands refer to ingredients such as CHABLIS, CHARDONNAY, CABERNET, GIN, VERMOUTH, VODKA, and WHATEVERSAROUND.

The many versions of the FIFTH language reflect the sophistication and financial status of its users. Commands in the ELITE dialect include VSOP and LAFITE, while commands in the GUTTER dialect include HOOTCH, RIPPLE, and SNEAKYPETE. The latter is a favorite of frustrated FORTH programmers who end up using this language.

* C- - This language was named for the grade received by its creator when he submitted it as a class project. C- is best described as a "low-level" programming language. In fact, the language generally requires more C- statements than machine code statements to execute a given task. In this respect it is very similar to COBOL.

* LITHP - an otherwithe unremarkable language dithtinguithhed by the abthence of an "S" in itth character thet. Utherth mutht thubthtitute "TH". LITHP ith thaid to be utheful in procethething lithtth.

* DOGO - Developed at the Massachusetts Institute for Obedience Training, DOGO heralds a new era of computer-literate pets. DOGO commands include SIT, STAY, HEEL, and ROLL_OVER. An innovative feature of DOGO is "puppy graphics", a small cocker spaniel that occasionally leaves a deposit as he travels across the screen.

COMPUTER SALES
Frapc
"There's been some kind of mistake. I ordered a computer with 32,000-pixel capacity and they sent me a computer with 32,000 pixies!"
Reprinted from Infoworld, Vol 5 No. 29, 7/18/83

ANA-LIST: A REVIEW
by JOHN J. SHAW

ANA-LIST in brief: ANA-LIST helps you keep track of lists, such as records of personal checks, vendor lists, etc. ANA-LIST will operate on an Apple][+/][e (or Apple][with Applesoft ROM card) with 48K of memory and at least disk drive (printer is useful but optional).

PERFORMANCE:	EXCELLENT
DOCUMENTATION:	VERY GOOD
EASE OF USE:	EXCELLENT
ERROR HANDLING:	VERY GOOD
OVERALL RATING:	EXCELLENT

Sometime after you have unpacked your Apple from its shipping box, after you have exhausted your neighbor's supply of arcade-style games, after it is no longer the darling little novelty, you begin wondering if it can be put to good use. The early community of Apple owners faced this very question in 1979 when lo and behold VISICALC suddenly appeared and demonstrated to everyone's surprise that the Apple could master complex tables of numbers. Several months later, a second awakening occurred when PFS:FILE appeared and demonstrated that the Apple could work wonders on databases for home and business use.

This year another superb package was introduced for the Apple: ANA-LIST, a program specifically designed to help you keep track of lists. Most of us keep lists of information to help track activities such as customer orders, checking accounts, Christmas card mailings, telephone numbers, etc. We may add information to a list in a haphazard fashion, but wish to see its contents displayed in some sort of order to make sense of the information contained therein. ANA-LIST will definitely help you better manage your lists of information.

A brief aside: how does a 'list' differ from a 'data base'? Actually the two are quite similar: both store items of information, each item (such as a vendor transaction) having one or more types of information describing what that item represents (for example, Wagner's Stationary paid $120 to buy 2 lamps). In practice, each item in a data base will normally have many types of information describing the item. Lists, on the other hand, normally have between 2-6 types of information per item. Large companies keep data bases; households and small firms typically keep lists of information.

ANA-LIST will manage lists having up to 46 columns of information to describe each item in the list. For example, a list of customers served by a small business may have, say, six columns per item: (1) CUSTOMER NAME, (2) PRODUCT PURCHASED, (3) QUANTITY, (4) UNIT PRICE, (5) SALE BOOKED, and (6) TOTAL COST. Around the home, my wife and I have a checking account list wherein each check is described by five columns of information: (1) CHECK NUMBER, (2) EXPENSE CATEGORY, (3) CHECK AMOUNT, (4) DATE WRITTEN, and (5) CLEARED.

Only rarely will any of us enter information to a list in an order that later makes sense. If you are a member of that minority that does, then skip this paragraph. If on the other hand you are like the other 99.7% of the people in this world, you will be glad to

know that ANA-LIST can sort your list using up to 9 of the columns in the list. By allowing multiple sorts, ANA-LIST can help you identify groups of items in your list having similar types of information. For example, my wife and I normally sort our checking account list to separate the checks by expense type (such as food, utilities, clothing, etc.). With this done, we can not only see where our household expenses go every month, but we can keep track of changes from one month to the next ("Expenses for computer supplies went up last month, John; what did you purchase this time?").

ANA-LIST can prepare professional-quality reports from the contents of a list; these reports can help you better identify patterns you would be likely to miss otherwise.

An example can best illustrate how ANA-LIST helps you prepare intelligent reports from a list. Figure 1 illustrates a simple list of customers served by a small sporting goods distributor. With a little studying, two patterns emerge: A MART is the firms biggest customer, and BASKETBALLS are the best selling items. Fine, but what if we want to see how the other customers or how the other products compare to one another.

Using ANA-LIST, I prepared Figure 2 - a report breaking out the sales by customers. At a glance, we can see that the next best customer following A MART is MARATHON, which in turn is followed by ACHILEEZ HEEL. To see how the products compare to one another, I prepared another report, shown in Figure 3. Again, a quick glance is all it takes to see that BASEBALLS sell better than FOOTBALLS, and SOCCER BALLS do not sell as well as HOCKEY PUCKS (HOCKEY PUCKS?).

ANA-LIST has several other handy features to help you better manage your lists: (1) you can modify the structure (e.g., the number of columns per item) of a list at any time, (2) you can send the contents of your list to VISICALC compatible DIF files (and vice versa), and (3) you can use the contents of one list (all or partial) to create a second list.

Best of all, ANA-LIST is virtually idiot-proof! From the well written documentation to the special features for selecting columns of information, ANA-LIST reveals a clean and thoughtful design with the user in mind. I would have to say that ANA-LIST is one of the two or thee easiest package I have ever used, and is head and shoulders above many of the big-selling data base programs available for the Apple.

You can find ANA-LIST at select stores in the Boston area, including MICROCOM in the Woburn Mall. If you cannot find ANA-LIST at your local computer store, you can order it directly from the creators, SYNOPTIC SOFTWARE:

SYNOPTIC SOFTWARE
57 Reservoir Lane
Chestnut Hill, MA 02167
(617) 277-0778

ANA-LIST retails for approximately $150.

DATE-11/5/83
PAGE-1

CUSTOMER LIST

CUSTOMER	PRODUCT	QUANTITY	UNIT COST	TOTAL COST
ACHILEEZ HEEL	HANDBALLS	350.00	.77	269.50
A MART	TENNIS BALLS	3500.00	.85	2975.00
TENNIS CITY	HANDBALLS	100.00	.90	90.00
A MART	SQUASH BALLS	1000.00	1.05	1050.00
TENNIS CITY	TENNIS BALLS	300.00	1.25	375.00
MARATHON	SQUASH BALLS	200.00	1.30	260.00
ACHILEEZ HEEL	SQUASH BALLS	200.00	1.30	260.00
A MART	HOCKEY PUCKS	490.00	1.55	759.50
A MART	BASEBALLS	740.00	7.10	5254.00
A MART	BASKETBALLS	650.00	16.65	10822.50
MARATHON	BASKETBALLS	95.00	21.20	2014.00
MARATHON	SOCCER BALLS	20.00	21.75	435.00
A MART	FOOTBALLS	150.00	32.50	4875.00
MARATHON	FOOTBALLS	6.00	39.25	235.50

DATE-11/5/83
PAGE-1

CUSTOMER LIST BY CUSTOMER

CUSTOMER	PRODUCT	QUANTITY	UNIT COST	TOTAL COST
A MART	BASEBALLS	740.00	7.10	5254.00
A MART	BASKETBALLS	650.00	16.65	10822.50
A MART	FOOTBALLS	150.00	32.50	4875.00
A MART	HOCKEY PUCKS	490.00	1.55	759.50
A MART	SQUASH BALLS	1000.00	1.05	1050.00
A MART	TENNIS BALLS	3500.00	.85	2975.00
A MART				25736.00
ACHILEEZ HEEL	HANDBALLS	350.00	.77	269.50
ACHILEEZ HEEL	SQUASH BALLS	200.00	1.30	260.00
ACHILEEZ HEEL				529.50
MARATHON	BASKETBALLS	95.00	21.20	2014.00
MARATHON	FOOTBALLS	6.00	39.25	235.50
MARATHON	SOCCER BALLS	20.00	21.75	435.00
MARATHON	SQUASH BALLS	200.00	1.30	260.00
MARATHON				2944.50
TENNIS CITY	HANDBALLS	100.00	.90	90.00
TENNIS CITY	TENNIS BALLS	300.00	1.25	375.00
TENNIS CITY				465.00
GRAND TOTAL				29675.00

DATE-11/5/83
PAGE-1

CUSTOMER LIST BY PRODUCT GROUP

CUSTOMER	PRODUCT	QUANTITY	UNIT COST	TOTAL COST
A MART	BASEBALLS	740.00	7.10	5254.00
BASEBALLS				5254.00
A MART	BASKETBALLS	650.00	16.65	10822.50
MARATHON	BASKETBALLS	95.00	21.20	2014.00
BASKETBALLS				12836.50
A MART	FOOTBALLS	150.00	32.50	4875.00
MARATHON	FOOTBALLS	6.00	39.25	235.50
FOOTBALLS				5110.50
ACHILEEZ HEEL	HANDBALLS	350.00	.77	269.50
TENNIS CITY	HANDBALLS	100.00	.90	90.00
HANDBALLS				359.50
A MART	HOCKEY PUCKS	490.00	1.55	759.50
HOCKEY PUCKS				759.50
MARATHON	SOCCER BALLS	20.00	21.75	435.00
SOCCER BALLS				435.00
A MART	SQUASH BALLS	1000.00	1.05	1050.00
MARATHON	SQUASH BALLS	200.00	1.30	260.00
ACHILEEZ HEEL	SQUASH BALLS	200.00	1.30	260.00
SQUASH BALLS				1570.00
A MART	TENNIS BALLS	3500.00	.85	2975.00
TENNIS CITY	TENNIS BALLS	300.00	1.25	375.00
TENNIS BALLS				3350.00
GRAND TOTAL				29675.00

WHAT IF...?: A GUIDE TO COMPUTER MODELING

A review by John S. Haley

(reprinted from APPLE-DAYTON)

The marriage of the microcomputer with easy to use [I hate the phrase 'user friendly'] data manipulation software has created a revolution in the business world. It is now possible to go beyond the simple tabulation of numbers pervasive throughout the financial environment. Because of the speed and accuracy attainable, data formulas and the structure of how these are combined can be readily changed and the effects of these changes made rapidly manifest. Answers to questions of "What if this was changed or that was modified?" are possible without going through a bewildering, mind-numbing exercise in number crunching to respond to even the simplest proposition. Ideas of many kinds, whether sincere or frivolous, can be tested, something which in the past was often not done regardless of the perceived value, because of the cost and human resources required to perform the work.

Tom Simondi in his WHAT IF...? A Guide to Computer Modeling presents to the novice and practitioner alike background and instruction about how to use computers and software to help solve some common business problems. His approach is balanced. He introduces many ideas that are directed towards teaching the uninitiated, but not in such an elementary fashion that the experienced reader cannot pick up new techniques.

The concept of the 'model', that is, the symbolic representation of reality, is developed in the book. The author notes that the use of models are found in religious practices (the voodoo doll for one), in science (wind tunnel testing as an example), and in mathematics where an idea or object is emulated through the use of formulas. The last of these, that is, the mathematical model, is where the computer and software come into the picture for the businessman.

It is important to grasp the idea of what a mathematical model is and is not. As the author shows, it is not necessarily a grandiose treatise created by a PhD math wiz. An income statement or balance sheet can easily be made into models where, for example, sales data or current asset data can be manipulated to test the profitability or financial impact of different business decisions. The standard level of business math is used, but routine calculations can be performed rapidly, repetitively, accurately, and the calculations are done the same way every time, unless a conscious effort is made to incorporate a change.

There are two basic components to a model: variables and formulas. To create a model, the principle characteristics of the situation must be analyzed, defined, and related to each other through some logical mathematical means. To do this, model builders must have a good idea of what they are doing and what they expect the outcome to be.

The author describes many good practices and hints. A good model should be simple, conversational (the user can use it), flexible (changes can be accommodated), and

complete (which will often conflict with the simplicity goal). The important questions "Can and should a model be built?" are discussed. Models will not help with all problems, especially those whose nature is qualitative (such as some elements of personnel management) rather than quantitative.

Once the model is built and tested, the "what if..." process can begin. The value of the model comes about after the second or third iteration (if the model is to be used only once, then stick to pencil and paper). Now the creative juices can flow.

In addition to the methods of model building, over 20 different software products are reviewed. Detailed features of each are described, highlighting the strengths and weaknesses of each, a;long with list price information. VISICALC, the granddaddy of them all in this young business is included (not so bad considering its relative age).

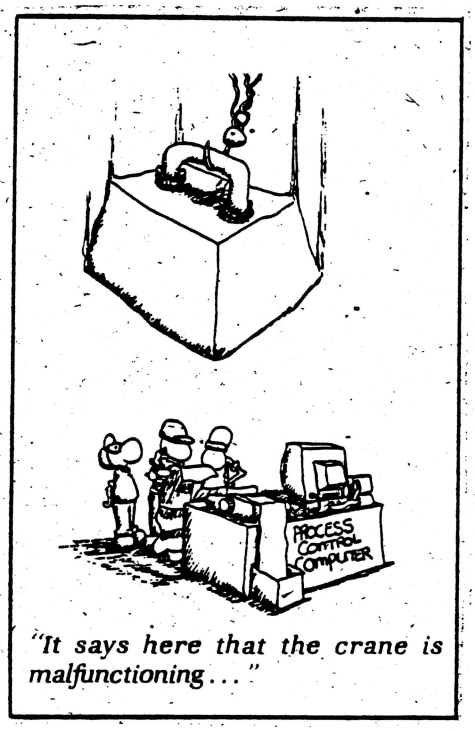
There are also several relatively sophisticated examples of models described in considerable detail. These alone are worth the price of the book. By going through the examples, the reader can learn a great deal about the theory and implementation of practical model building. Although the examples are coded using SUPERCALC commands, they are easily translated for other software.

The book has a flaw, albeit a small one, in common with many others written about the use of electronic spreadsheet software. The author gives a general description of some of the fancier features the products have; sine, cosine, integer, logic commands, etc., i.e., the things that really permit the imagination to get moving, and then forgets to include ny of them in the examples.

I think the author did a terrific job of introducing the modeling process, describing some of the more important software products available, and showing examples of how models work. He promises follow-up editions and actively solicits example models from the reader to be published in them.

WHAT IF...? A Guide to Computer Modeling should be high on the list of reading for anyone contemplating the purchase of one of the 'CALC' software products. It will also be a valuable addition to the libraries of those who use them now.

WHAT IF...? A Guide to Computer Modeling, by Thomas E. Simondi; 250 pgs; paperback; 1983 by The Book Company, Los Angeles, CA; $19.95.



"It says here that the crane is malfunctioning..."

InfoWorld Volume 5, Number 3

B.E.S.T.: A REVIEW
published by
Sensible Software

B.E.S.T. in brief: B.E.S.T. is a collection of utilities for Applesoft programmers. B.E.S.T. will help you compress the size of your BASIC programs, renumber programs, and merge separate programs.

OVERALL RATING: EXCELLENT

Alright all you Applesoft mavens out there, listen up! Have you ever wished you had a utility program that could shorten the length of an Applesoft program? Have you ever wanted a cross reference of your favorite program by variable and line number? Do you like having to convert a program to a text file before you can merge it with another program? Well, here's some good news for you: B.E.S.T., by Sensible Software, may just be what you need to relieve your programming woes.

B.E.S.T. (Basic Enhanced Software Tools) is an easily affordable collection of utilities that will shorten, cross reference, renumber, and merge Applesoft programs. Some of these utilities have appeared elsewhere, including the Applesoft Programmer's Assistant in the DOS Tool Kit, but B.E.S.T. is unique (to my knowledge) in bringing all of these utilities together in a single package. B.E.S.T. offers:

1) A variable cross reference utility that indicates lines where a variable is assigned a value. B.E.S.T. lets you cross reference all or even a single variable.

2) A line cross reference utility that indicates which line numbers are actively referred to. In addition, lines containing GOSUBs are flagged. A single line number may be mapped.

3) A complete cross reference utility that combines utilities 1 & 2.

4) A variable name optimizer that replaces each and every variable name with a one or two character name.

5) A REM optimizer that removes REM statements with the ability to protect specified REM statements.

6) A line optimizer that joins short lines together.

7) A complete optimizer that combines utilities 4, 5, & 6.

8) A utility that will hide an Applesoft program in a reserved area in memory and let you load in a second program without disturbing the first.

9) A utility that will merge the hidden program with the current program.

10) A line renumbering utility, and an automatic numbering utility.

B.E.S.T. also has a few more features of interest. First, it uses a slightly modified disk operating system that will greatly reduce the time required to load and save Applesoft and Text files; you can copy this operating system over to your own disks by initializing them with B.E.S.T. in memory. Second, it has a function

that will display the length of the current Applesoft program and the amount of memory still available. Finally, it has a convenient HELP command that will display a list of all the available commands.

B.E.S.T. hides in memory and will not interfere with most of your Applesoft programs. [In the event a program uses the same memory used by B.E.S.T., you can still use these utilities on that program provided you do not try to run it.] Once loaded, B.E.S.T.'s utilities are invoked using ampersand (&) commands

Does B.E.S.T. work? You BETCHA! I ran into a problem several months ago with an Applesoft program that had become too large and could not work with large arrays. In desperation I purchased B.E.S.T. for no other reason than to reduce the size of this program. Lo and behold, B.E.S.T.'s line optimization utility alone reduced the size of my program by 1,100 bytes! When I used the variable optimization utility, B.E.S.T. reduced the program by another 1,500 bytes for good measure! So impressed was I that I turned B.E.S.T. loose on every program on one of my more crowded disks and reduced the total storage by almost 11,000 bytes! Since that time I have used B.E.S.T. (especially its hide and merge utilities) for all of my serious program development.

In short, I highly recommend B.E.S.T. for anyone engaged in moderate to serious Applesoft programming. Unfortunately, your local computer dealer will probably not carry B.E.S.T., but he or she should be able to order it for you.

THE ARTIST: A REVIEW
by Rick Croasdale

(Reprinted from APPLE-DAYTON)

The ARTIST is a graphics drawing and animation system for Apple computers. It not only provides the capability for creating pictures using common paddles and keystrokes, it has very adequate documentation which explains the Apple's complicated HIRES graphics capability and how to create and use animated characters. It explains, step by step, how to write a space invaders game using some of the high speed plotting routines included. The program runs well but requires multiple accesses to the disk for various routines which slows down execution drastically, Many of the modules are written in compiled Applesoft. The program is made up of many modules that can be separated into two classes: Drawing and Animation.

I. DRAWING: The drawing modules allow the user to draw lines using one or two paddles, edit a drawing using a unique zoom feature, create shapes, fill closed figures, and add or change text within the picture. The main menu allows your to select any of these options.

A. Line Drawing: If you select single paddle draw, the program loads in the single paddle draw module and presents you with an arrow, or turtle as some may call it, to draw with. The paddle steers the turtle while button 0, when pressed, moves it in the aimed direction. By pressing the space bar, the turtle leaves a trail, a line on the screen. By pressing the space bar again, the drawing stops. Of course you can change the colors and speeds of

the turtle. If you enter the double paddle mode, one paddle moves a cursor vertically, the other moves it horizontally. The remaining drawing features are the same as the single paddle routines.

B. Bit Editing: This program has a very good and unique dot editing feature called the Zoom Lens. This routine is called from the main menu and displays a small box over your picture. This box can be moved to an area of interest, then be enlarged to fill the screen. By using the I, J, K, and M keys, a cursor moves within this blown up picture to allow individual pixels to either be added, or erased. An original sized (small) display of the picture you are working on is shown at the top of the screen so you can see the changes you make on the original sized picture as well as on the blow up. This routine can be used to smooth a jagged line, etc., and is perhaps the best bit editor I've seen for the Apple. You can even undo all changes made during a session provided you don't exit back to the main menu. Once you leave the module, changes become permanent.

C. Creating Shapes: The ARTIST gives you several shape table creating capabilities compatible with either the Apple's DRAW and XDRAW commands, or the high speed byte animation routines described in Section II of this article. All you do is select which type of table you want to create, place the cursor at the upper left of the figure you want to put into the table, press a key, then move it to the lower right. Pressing the space bar then creates the shape table for you. One excellent feature of this shape table create routine is that it allows you to define where you want the center of the shape to be. Most of the shape create routines that I've seen are oriented at the upper left corner but with this package, you can place the orientation at at the center if you want. The created table can then be added to or saved to disk. Very large shapes can be made this way, in fact I made a shape so large that it stomped over DOS itself, thereby destroying any capability for saving it. Be careful or else this can happen to you without notice.

D. Figure Filling: The ARTIST has about the best and fastest routine for filling a closed figure with about any color you can imagine. Unlike other fill routines in other graphic packages I've used, this routine fills the complete figure, no matter how complex it is. Most fill routines fill only convex shapes such as circles or squares with one step. Complex shapes, such as a donut or map outline, require many iterations in order to fill the entire figure. The fill routines included with this package require only that you place the seed (cursor) inside the shape somewhere and press a key. The color is defined in advance. When the key is pressed, the color begins filling every nook and cranny within the closed boundary. If you have an opening somewhere, the color will escape the figure and flood the screen. This routine alone is perhaps worth half the price of the package.

E. Text: Adding text is easy. The only thing I found discomforting is the lack of control of the text itself. The text can only be written right side up and in normal size. The

only way I found to rotate the text is to change the font. This is fairly easy to do using the advanced font create/change routine included in this package, but it does require some time on the user's part. The text can be displayed in normal or inverse although the documentation misleads you into thinking that flashing characters are available. A flashing character doesn't make sense in printed picture and the documentation doesn't explain what 'flash' means. It does refer you to another section for the answer but this other routine makes no mention of 'flash'. An oversight, I'm sure.

II. ANIMATION: The ARTIST package has several high speed routines for animating on the high resolution screen.

A. One method is in the form of printing text characters to the HIRES page. The character fonts are created using the text editing feature in paragragh E above. By redefining a character such as "A", for example, to the the shape of an alien space ship (or part of one), you can move the ship anywhere on the HIRES page by setting the horizontal and vertical tabs from BASIC and by printing the letter "A", the space ship will appear at that location on the screen. Bill Budge's APPLEVISION uses this type of technique for printing the text on the HIRES page. By redefining many of the standard characters to graphic shapes, etc., fast animation is possible using common print statements from BASIC. The ARTIST documentation package goes through a step by step description of how to write a Space Invaders game in BASIC using this animation technique.

B. The best animation techniques use the High speed byte move routines supplied. The shapes used by these routines are created using the Hi-Speed Byte Routine section of Shape Makers in this package, see paragraph I. C above. There are 5 routines in this unit. They are used in the same way but differ in complexity and usefullness. The five routines are:

1. Plot white at 255 X coordinates

2. Plot white at 255 X coordinates with collision detection

3. Plot color at 140 X coordinates

4. Plot color at 140 X coordinates with collision detection

5. Plot white at 255 X coordinates with buffer

As you can see, the major disadvantage with these routines is that only 255 of the 280 possible X positions are available for animation. This small sacrifice for speed is well worth it for in order to get the full 280 possible positions, the speed would be reduced by a factor of 2. I will not explain the advantages and disadvantages of these routines in general, #1 is the fastest and least versatile, while #5 is the slowest and most versatile. All of them are very fast in comparison to the DRAW and XDRAW routines available in Applesoft.

In order to use these routines, you must load three files: 1) the Byte Move routines, 2) tables used by the Byte Move Routines, and 3)

the shape itself. You must then tell the routines what the X and Y coordinates are by poking them into specified locations, tell the routines where the shape is located at, and finally call the draw routine. Of course, the Applesoft command HGR must be invoked first. There are several calls allowed, including one to DRAW the shape, and one to XDRAW it in the opposite color (erase). For routines #2, #4, and #5, a collision detection is available by peeking an address (722). If this address contains a number greater than 0, a collision has occurred and the user can take the appropriate action, such as drawing an explosion on the screen. Shapes can be loaded in any area of memory that you desire so long as you tell the Byte Move routines where they are before you try to draw them. The specifics of where these routines are loaded and the address of X and Y are well defined in the documentation. It is interesting to note that 255 Y coordinates are possible for plotting in this package although only 192 are available on the Apple. The leftover positions act as a buffer and are not seen on the screen.

CONCLUSION: All in all, I think this program is very good for what is does. It isn't the most complete graphics program available for the Apple, but it is definitely worth the effort to learn to use. With the exception of the main menu program, this package is unprotected so backups of the more useful routines can be made. The animation and fill routines are without a doubt the best I've seen, and are perhaps worth the cost of this package alone. The documentation is excellent, and gives a very good explanation of how the Apple's graphics work.

SCREEN DATA MANAGER DEMONSTRATION

By Mike Gooding & Hugh Spillane

At the September NEAT Meeting, several database management systems for the APPLE were discussed: PFS:File-Personal File System; VISI-File; and SDM: Screen Data Manager.

The purpose of these packages is basically the same - to store lists of information, (that might normally be kept in manual lists or file cards), update and print this information or an ordered cross section of it.

The decision of which one to purchase when shopping for a data base management system depends largely on your data management needs. But there are other factors involved. (For example cost and ease of use). There are plus' and short falls of these packages. The comparison table gives you an idea of some of the features available.

After using PFS and VISI-file I felt there was a need for a simpler to use data manager. Yet, I did not what to give up the enhancements that larger packages offer. That was the beginning of SDM.

SDM: Screen Data Manager is a user-friendly software package for managing small to medium size databases. SDM demonstrates that general database management doesn't have to be difficult - or complicated. Its totally menu-driven and on-line help features make database definition, use and printout a snap to use. Information gathering with SDM is centered around entry of data on a formatted screen display. SDM allows you to decide how you want to display your information-just the way you like it-not just the

way the machine would like it!

Entry of information is a simple matter of "filling in the blanks" on a database display screen. When finished with a screen of information, you'll advance to a new blank "form" to fill in. The last line on the screen gives the name, entry number and size of the list.

Once data is entered, the same screen formatting features are used to maintain, update, insert, or delete information. Menu assistance is provided for rapid access to a specific record (or class of records) of your list.

SDM's Report Generation features allow you to specify the exact format for hardcopy presentation of captured information. In fact, SDM allows as many as ten different printout formats for each of up to 21 databases. Report titles, pagination, column heading identification, column totals, data alignment and printing, alphabetization, and more allow virtually any report format to be generated from captured information.

SDM comes with a complete 70 page Tutorial User Guide. The Tutorial leads the user through the five basic steps needed to establish and use an "Address List" database. The package supports lower case, two disk drives, and most printers. All that is required by SDM is an APPLE II Plus, IIe, or compatible computer with 48K RAM and one disk drive.

SDM: Screen Data Manager is available directly to NEAT members through Mike Gooding (NEAT Librarian) at a special NEAT discount of 20% off ($39 Total Price), or through The Software Mill, 19 Grist Mill Road, Acton, MA 01720; (617) 264-4237. Dealer and Educational discounts are available.

Database Qualities	PFS File	VIS FILE	SDM
Single Disk	No	No	Yes
Two Disk	Yes	Yes	Yes
Data in DOS 3.3 Text File	No	Random	Yes
Lower Case Entry Option	No	No	Yes
Formatted Data Entry Screen	Yes	No	Yes
Search for Record	Yes	Yes	Yes
Control Keys Used	10	12	1
Record Search Time (sec)	3-20	3-20	1-4
Records per Database	1000+	1000+	see note
(SDM buffers 100-700 records in memory using a data windowing technique)			
Databases/disk	1	OPEN	21
Tutorial Manual	Yes	Yes	Yes
On-line Help	No	Limited	Yes
Fully Menu Driven	No	No	Yes
Report Generator Included	No	Yes	Yes
Printer Options Supported:			
132 column compressed printout	No	No	Yes
Interface Slot	=1	Yes	Yes
Printer control chars.	No	No	Yes
Report Title	Yes	Yes	Yes
Pagination	Yes	Yes	Yes
Column Headings	Yes	Yes	Yes
Column Totals	Yes	Yes	Yes
Print Record content across multiple lines	Yes	Yes	Yes
Add Cosmetic text to record printouts	No	No	Yes
Selectable Sort & match option	Yes	Yes	Yes
Number of report formats per database	1	Open	10
Retail Price	$125	$209	$49

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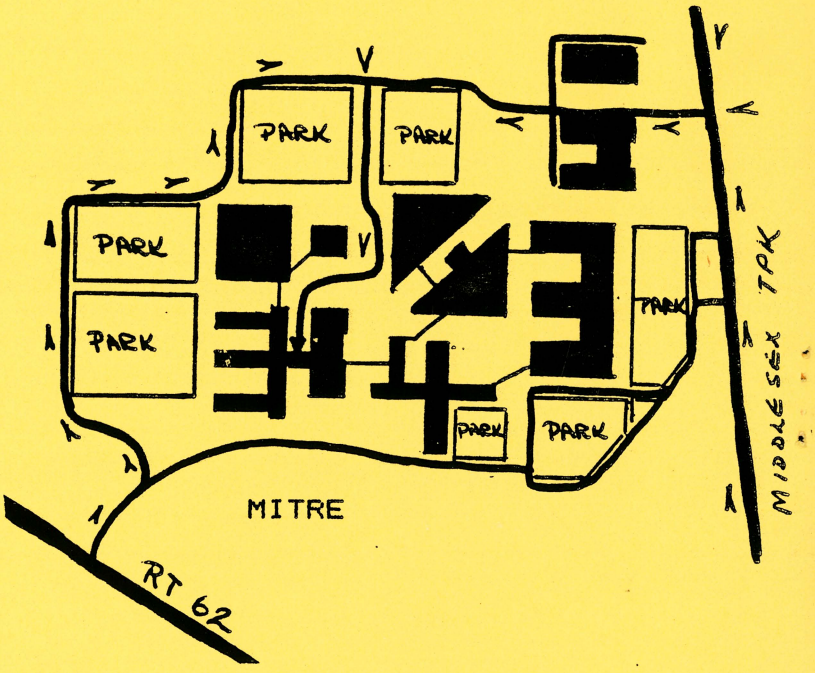
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